

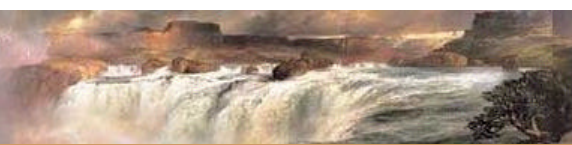
# **Water Rights Accounting Internet Mapping Users Guide**

An ArcIMS Mapping Application

## **Idaho Department of Water Resources**

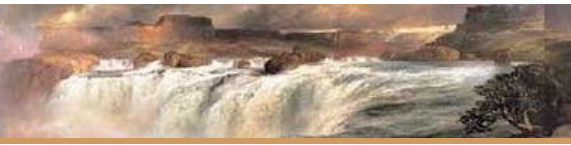
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## Table of Contents

<b>Browser Warnings and Tips</b>	<b>3</b>
<b>Conditions of Use</b>	<b>3</b>
<b>Pop-up Windows</b>	<b>3</b>
<b>Disable the Microsoft Internet Explorer Image Toolbar</b>	<b>3</b>
<b>Attention Windows XP Users</b>	<b>3</b>
<b>Introduction</b>	<b>4</b>
<b>Using the Map</b>	<b>5</b>
<b>Symbols Used on the Map</b>	<b>6</b>
<b>Accessing Tabular Data</b>	<b>7</b>
<b>Displaying Historical Data</b>	<b>8</b>
<b>Retrieving Data</b>	<b>9</b>
<b>Displaying Accounting Data</b>	<b>11</b>
<b>Labeling Accounting Model and RTS Points</b>	<b>12</b>
<b>Displaying Detailed Diversion Data</b>	<b>12</b>



## ***Browser Warnings and Tips***


### **Conditions of Use**

The Idaho Department of Water Resources is maintaining this web site as a public service. The Idaho Department of Water Resources strives to ensure that all technical data and other information made available to the public through this web site is accurate, complete and in conformance with the Idaho Public Records Act. Neither the Department of Water Resources nor the State of Idaho, however, assumes any legal responsibility for the accuracy or completeness of the information contained on this site.

Persons using information from this site for official purposes, or other purposes, for which accuracy and completeness are required, are hereby notified that they should first verify the information with the public records or other primary sources from which the information was obtained.

### **Pop-up Windows**

The use of multiple pop-up windows in the application allows you to compare records for more than one site or more than one year of data for a site.

**Do not use your browser's 'Back' button or the 'Refresh' button. If you wish to go back the previous screen use the "Zoom to previous extent"  tool.**

If you need to refresh the screen due to a browser malfunction please close the browser and restart it.

This application is designed for use in Microsoft Internet Explorer, version 6, or newer. Instructions on how to disable Internet Explorer features that interfere with this application follow.

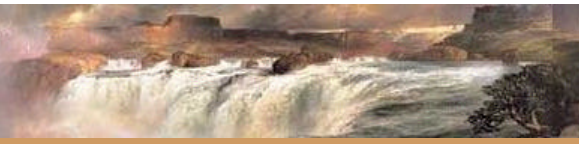
### **Disable the Microsoft Internet Explorer Image Toolbar**

Internet Explorer's Image Toolbar  interferes with the use of some tools in this application.

Please refer to the *Internet Mapping Users Guide* for instruction on how to disable the IE6 Image Toolbar.

### **Attention Windows XP Users**

The disclaimer that displays when you browse to our web-site has a detailed description of how Microsoft's new "pop-up blocker" can cause problems with our applications. You can read Microsoft's explanation of how to disable/enable/configure the pop-up blocker at [http://www.microsoft.com/windowsxp/using/web/sp2\\_popupblocker.msp](http://www.microsoft.com/windowsxp/using/web/sp2_popupblocker.msp).



## ***Introduction***

The Technical Services Bureau of the Idaho Department of Water Resources (IDWR) uses ESRI's Internet Map Server, known as ArcIMS, to serve fully interactive maps to remote users over the internet. Within a simple browser interface, you can access, display, and interact with data generated by the IDWR's engineers, scientists and GIS professionals.

The maps displayed on the IDWR web-site are composed of data stored in our Geographic Information System (GIS). ArcIMS web-based mapping applications offered by the IDWR display geographic information and query associated tabular data hosted by the IDWR's servers. The GIS servers access databases on other IDWR servers for information concerning hydrology, water rights, well drilling, flood hazards and wind power, as well as databases from other state, county and federal government agencies.

Maps created with ArcIMS differ from most others on the internet because, unlike sites such as "Mapquest®" or "Google Earth®," users have the ability to specify as many as eighty GIS layers, including high-resolution background images. You can easily access IDWR databases by selecting points on the map and download entire GIS layers or clip and download portions of layers.



## Using the Map

The map displayed at the center of the application window is interactive (**Figure 1**). You can use the tools on the left-hand side of the window for a variety of functions, such as zoom in to small section of the state, zoom out, pan around, measure linear features, etc. For an explanation of how use the toolbar and the other capabilities of ArcIMS, please download the *Internet Mapping Users Guide* at <http://maps.idwr.idaho.gov/InternetMappingUsersGuide.pdf>.

The interactive map is a powerful way of sorting and highlighting the key fields in a database. You can look at symbols and see how hydrographic features relate spatially to a river. You can tell what the symbol represents (e.g. a diversion or a gage) by the way it is drawn. The symbols add another level of understanding to tabular data, and this application allows you to access and query those tabular data through the map.

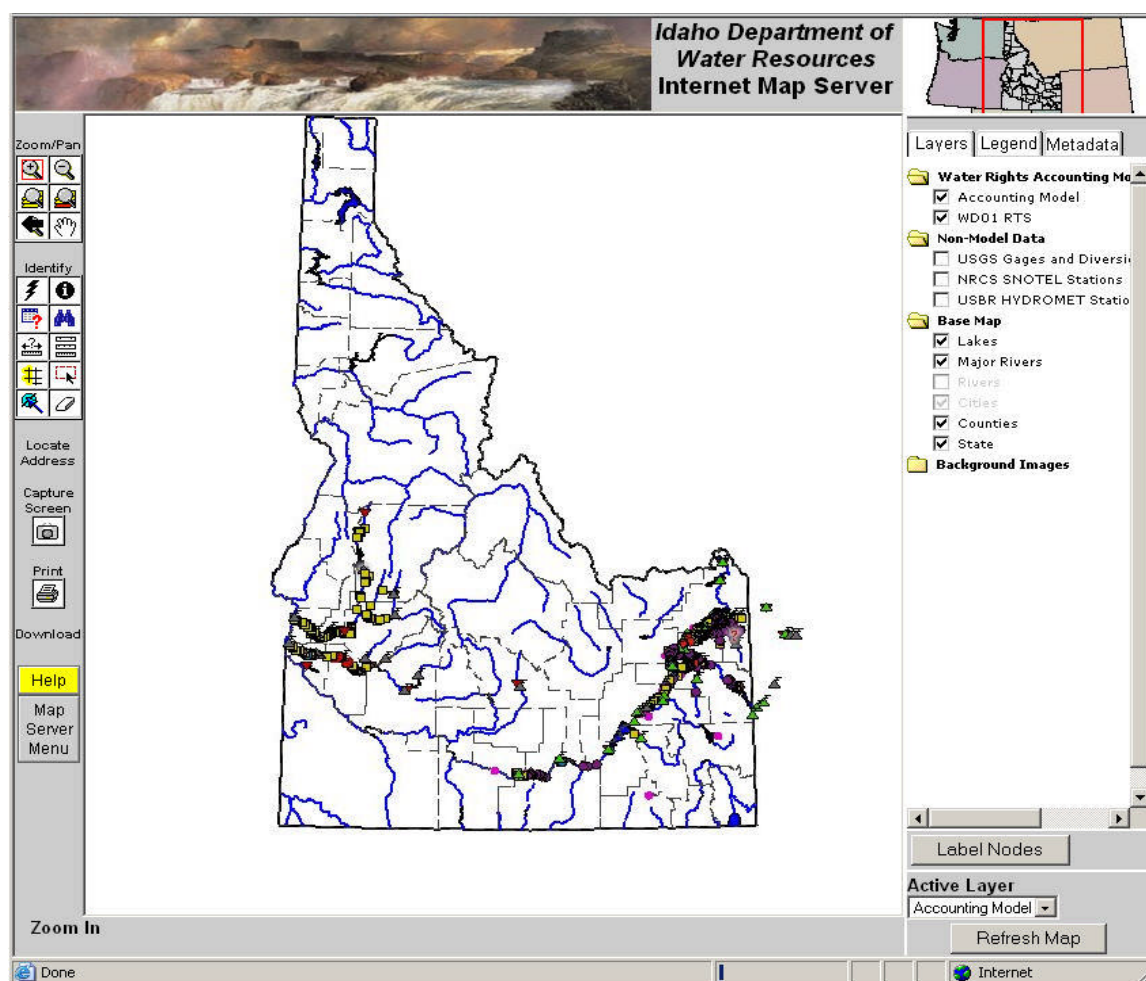
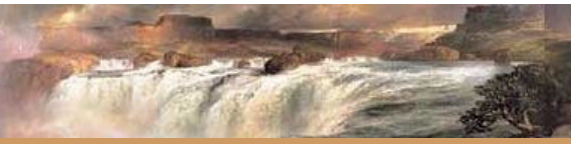


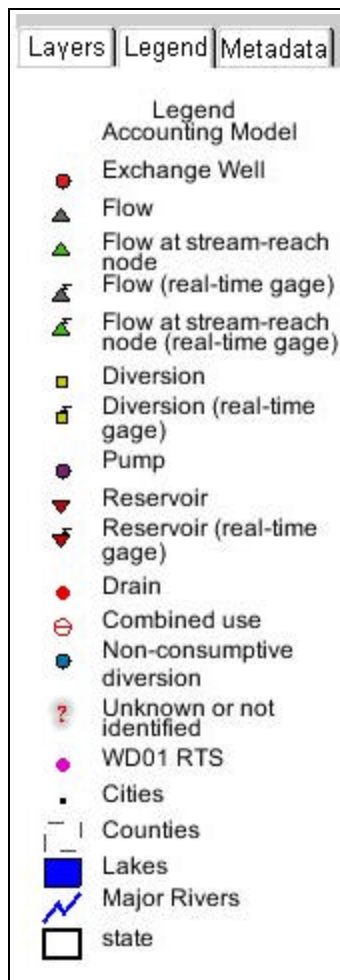
Figure 1: The main window for the Water Rights Accounting application.




## Symbols Used on the Map

The table of contents (TOC), to the right of the map, is divided into three functions; listing the *layers*, displaying a *legend* of map symbols and providing links to *metadata* associated with the GIS layers used to compose the map. Depending on the selected tab, you can display/hide layers, tell which layers are available at the current scale, view a legend of map symbols and obtain metadata.

The list of map symbols present on the legend will change as you display/hide layers using the “Layers” tab. If a layer is not marked as visible in the layers list it will not be represented in the legend.



This Water Rights Accounting application uses several GIS layers, the most important of which is labeled “Accounting Model.” Make sure it is the “Active Layer” when you start the application. The name of the active layer is displayed in the drop-down list box at the lower, right of your screen, and is the layer that is queried when you use the “Identify”  tool.



The “Accounting Model” layer contains a point for each record in the Water Rights Accounting database. Those points are drawn as shown in the legend in **Figure 2**.

**Note:** You will need to click on the “Legend” tab, as illustrated at the top of **Figure 2**, to make the legend visible.

When you look at the symbols in the map display, you can use the “Identify Tool” to click on a symbol to access detailed information about the specific point in the IDWR database.


Figure 2: Legend





## Accessing Tabular Data

Make sure that the active layer drop-down list is set to “Accounting Model” (the default),

Click on the “Identify”  tool, then click on a point on the map. A pop-up window named “Query/Selection Results” presents a list of all model entities at that location.

Accounting Model (DPL)			
Zoom to Feature	SITEID	AGENCY	FULLNAME
1	<a href="#">13038500</a>	USGS	SNAKE RIVER AT LORENZO
2	<a href="#">13038501</a>		REACH GAIN SNAKE RIVER HEISE TO LORENZO
3	<a href="#">13038502</a>		TOTAL DIVERSIONS SNAKE RIVER BLW DRY BED TO LORENZO

Figure 3: Query/Selection Results Window

There are three records in the model database associated with the point shown in **Figure 3** because it is an USGS real-time flow gage. The first record provides a link to historical and model data for the gage. The second and third records, present because the gage represents a node between two model stream reaches, do not currently link to tabular information.

Click on the link in the “SITEID” column for the gage (the first record). You will be presented with a menu of options available for obtaining data for USGS real-time gages.

Idaho Department of Water Resources

Water Rights Accounting

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**Flow Information For Site ID 13038500**  
**Station Name:** BLW DRY BED TO LORENZO

**Links to Provisional USGS Real-time Gaging Station Information**

- ☐ USGS Real-time stream gage height and flow data for this node
- ☐ USGS most recent gage shift

**Department of Water Resources Historical Information**

- ☒ Historical discharges or reservoir contents (daily values)

**Department of Water Resources Water Rights Accounting**

- ☐ Accounting data (daily values)

Figure 4: Stream Reach Information Menu

## Idaho Department of Water Resources

### Internet Mapping Application



The menu options differ depending on the type of model point you are querying. For example, the menu for diversions will not show real-time gage data but adds the capability to list the water rights associated with the diversion. The options for historical data and accounting model results will be available for most model points.

As noted earlier, database records for some points, such as “reach gain” and “total diversions” will not have data – these records in the model database are used for model calculations.

## Displaying Historical Data

Select the radio button for “historical discharges or reservoir contents” and press the “Submit” button. A pop-up window will display the tabular information for that site for a single year. You can use the drop-down list near the upper, left corner of the window to

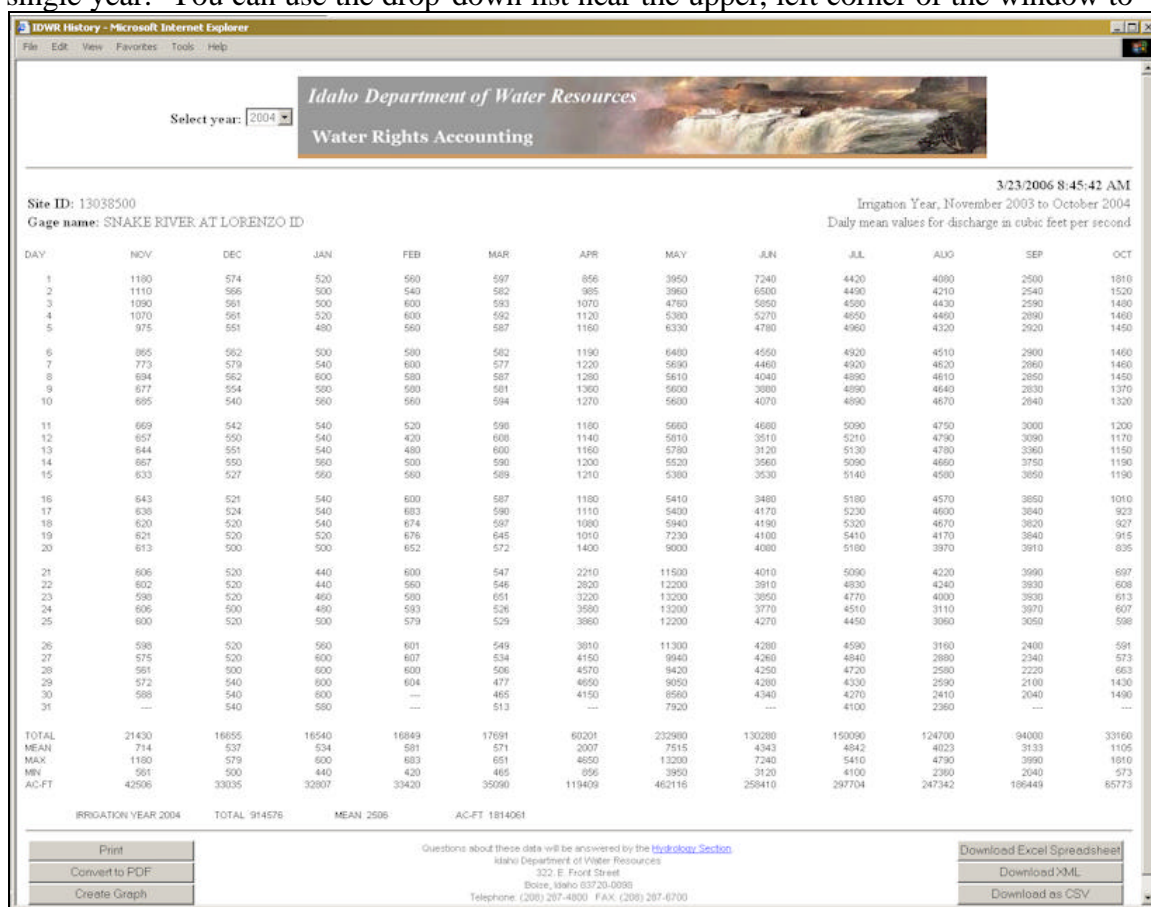


Figure 5: Summary of historical data for Site ID 13038500 for 2004.

select the year you wish to see. Once you have selected a year, any historical or accounting data you view will be for that year until you select a different year.





Data for the current irrigation year, or for the recently completed irrigation year – for which data have not been finalized – bring the warning:

**The data for the selected year are provisional and subject to change!**

Additionally, for the current year, or if you have from one model point to another you may get the message:

No **flow** records were found for site ID **13038500** for the 2006 irrigation year.

### Retrieving Data

There are several options for retrieving the data you are viewing on the screen. If you choose to print or “Convert to PDF” you will get the data currently visible on the screen in a format that matches the “Water Master” report; it will not contain the web-graphics, drop-down list or any of the buttons shown in the window.

Choose “Create Graph” to make a line-graph of tabular data. If you do not like the color graph (or wish to print it), you have the option to display the graph as black and white.



Figure 6: Graph of historical data for Site ID 13038500 for 2004.

There are options to convert the data to Microsoft Excel format, XML or a comma-separated list. If you choose Excel, the first worksheet will contain the site name and site ID. The second worksheet will have the daily flow values as shown in **Figure 7**.

	A	B	C	D	E	F	G	H	I
1	DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2	01	1180	574	520	560	597	856	3950	72
3	02	1110	566	500	540	582	985	3960	64
4	03	1090	561	500	600	593	1070	4760	58
5	04	1070	561	520	600	592	1120	5380	52
6	05	975	551	480	560	587	1160	6330	42
7	06	865	562	500	580	582	1190	6480	45
8	07	773	579	540	600	577	1220	5690	42
9	08	694	562	600	580	587	1280	5610	40
10	09	677	554	580	580	581	1360	5600	38
11	10	685	540	560	560	594	1270	5600	40
12	11	669	542	540	520	598	1180	5660	48
13	12	657	550	540	420	600	1140	5810	24

**Figure 7: Downloaded spreadsheet of historical data for Site ID 13038500 for 2004.**

## Displaying Accounting Data

Select the radio button for “accounting data (daily values)” and press the “Submit” button. A pop-up window will display the tabular information for that site for a single year. This window includes all of the functionality described above for historical data, including the options for printing, graphing and downloading data.

**Figure 8** shows the first month’s evaporation and accrual for irrigation year 2004, for the Palisades Reservoir. A value will be displayed for each day in the year.

Select year: 2004		Idaho Department of Water Resources Water Rights Accounting			
Site ID: 13032450 Reservoir name: PALISADES RESERVOIR NEAR IRWIN		3/23/2006 2:43:25 PM Irrigation Year, November 2003 to October 2004 Daily mean values for total evaporation in acre feet			
Date	Total Evap-AF (AF)	Res Evap-AF (AF)	Accrual-AF (AF)	Total-AF (AF)	Current-AF (AF)
11/1/2003	0.0	0.0	369	91344	48732
11/2/2003	0.0	0.0	361	92060	48838
11/3/2003	0.0	0.0	591	93232	47215
11/4/2003	0.0	0.0	1121	95456	47701
11/5/2003	0.0	0.0	1655	99738	49470
11/6/2003	0.0	0.0	1651	102014	51651
11/7/2003	0.0	0.0	1567	105123	53763
11/8/2003	0.0	0.0	1626	109348	56012
11/9/2003	0.0	0.0	1526	111375	58756
11/10/2003	0.0	0.0	1447	114244	61214
11/11/2003	0.0	0.0	2079	118369	64361
11/12/2003	0.0	0.0	2040	122414	66948
11/13/2003	0.0	0.0	1564	126269	69058
11/14/2003	0.0	0.0	2001	130268	71610
11/15/2003	0.0	0.0	1982	134190	74312
11/16/2003	0.0	0.0	2022	138300	77058
11/17/2003	0.0	0.0	1972	142112	79546
11/18/2003	0.0	0.0	1937	145954	82000
11/19/2003	0.0	0.0	1908	149896	85270
11/20/2003	0.0	0.0	2074	154011	88495
11/21/2003	0.0	0.0	2162	158299	91690
11/22/2003	0.0	0.0	2180	162622	94944
11/23/2003	0.0	0.0	2115	166916	97421
11/24/2003	0.0	0.0	2029	170941	99950
11/25/2003	0.0	0.0	1942	174689	102400
11/26/2003	0.0	0.0	1760	178223	104908
11/27/2003	0.0	0.0	1673	181542	108336
11/28/2003	0.0	0.0	1611	184757	108963
11/29/2003	0.0	0.0	1604	187917	111116
11/30/2003	0.0	0.0	1718	191325	113805
12/1/2003	0.0	0.0	1723	194842	116228

**Figure 8:** Table of accounting data for Site ID 13032450 for 2004.

**Note:** If you choose to graph accounting model data for a reservoir you will get a warning that states that the graph does not show physical contents. The numbers are used for accounting purposes but may not resemble the actual storage – for actual storage, graph the historical data.




### ***Labeling Accounting Model and RTS Points***

You can use the “Label Nodes” button, located near the lower, right corner of the window, to place a label on all of the model points and the RTS points. The accounting model points will be labeled with the site name; the RTS points will be labeled with the IDWR water rights number. The labels may be quite long and many points have more than one database record, so you should be viewing a relatively small section of land before you label the nodes.

### ***Displaying Detailed Diversion Data***

**Note:** Currently, only detailed information is available for the Upper Snake River system (IDWR Water District 01).

Make “WD01 RTS” the active layer using the drop-down list at the lower, right corner of the window. Click on one of the “WD01 RTS” points on the map – refer to the legend if you do not know the map-symbol for those points.

Make the “Identify”  tool active; click on a point on the map. A pop-up window named “Query/Selection Results” presents a records for all water rights used in the model at that location. The information displayed in these records is a subset of the fields maintained in the IDWR’s water rights database. The water right number, diversion rate and priority date for this site are shown.